CLAIMS:

1   1.   A method comprising:

2   transmitting a broadcast burst in a broadcast channel from a base station of a radio

3   communications system;

4   receiving a request burst from a user terminal;

5   transmitting a message burst from the base station to the user terminal from which the

6   request burst was received, the message burst including a description of the channels

7   available on the radio communications system for receiving messages from user

8   terminals.

1   2.   The method of Claim 1, wherein the description of the available channels

2   includes an identification of traffic channels of the radio communications system.

1   3.   The method of Claim 1, wherein the description of the available channels

2   includes an identification of random access channels of the radio communications

3   system.

1   4.   The method of Claim 1, wherein the message burst further includes an

2   indication of the transmit power level to be used by the user terminal in further

3   transmissions.

1   5.   The method of Claim 4, wherein the request burst further includes an

2   indication of the power used by the user terminal to transmit the request burst and

3   wherein the indication of the transmit power to be used by the user terminal is based upon

4   the indication in the request.

1   6.   The method of Claim 1, wherein the request includes an identification of

2   the user terminal.

1   7.   The method of Claim 1, wherein the configuration message further

2   includes an indication of the timing adjustment to be used by the user terminal in further

3   transmissions.

1   8.   The method of Claim 1, wherein the broadcast burst has a specific

2   transmission time and the request burst is received with a specific timing relationship to

3   the broadcast message, the method further comprising using the timing relationship to

4   determine a base station to which the request burst is directed.

1   9.   The method of Claim 1, wherein the message burst is sent with a specific

2   timing relationship to the request burst, the method further comprising using the timing

3   relationship to direct the message burst to the user terminal from which the request burst

4   was received.

1   10.   The method of Claim 1, wherein the broadcast burst further includes a

2   code to identify the transmitting base station and wherein receiving a request burst

3   comprises demultiplexing the request burst from the base station identifying code.

1   11.   The method of Claim 10, wherein the code to identify the transmitting

2   base station comprises a base station color code.

1   12.   The method of Claim 1, wherein the broadcast burst includes a power

2   sequence that is related to the power used to transmit the broadcast burst.

1   13.   The method of Claim 1, wherein the broadcast burst includes a load

2   sequence that is related to the current traffic load at the base station.

1   14.   The method of Claim 1, further comprising analyzing the spatial direction

2   from which the request burst is received and wherein transmitting the message burst

3   comprises transmitting the message burst spatially directed toward the user terminal

4   based on the spatial direction analysis.

1   15.   The method of Claim 14, wherein analyzing the spatial direction

2   comprises determining direction of arrival parameters from the received message burst.

1   16.   A machine-readable medium having stored thereon data representing

2   sequences of instructions which, when executed by a machine, cause the machine to

3   perform operations comprising:

4   transmitting a broadcast burst in a broadcast channel from a base station of a radio

5   communications system;

6   receiving a request burst from a user terminal;

7   transmitting a message burst from the base station to the user terminal from which the

8   request burst was received, the message burst including a description of the channels

9   available on the radio communications system for receiving messages from user

10   terminals.

1   17.   The medium of Claim 16, wherein the description of the available

2   channels includes an identification of traffic channels of the radio communications

3   system.

1   18.   The medium of Claim 16, wherein the description of the available

2   channels includes an identification of random access channels of the radio

3   communications system.

1   19.   The medium of Claim 16, wherein the message burst further includes an

2   indication of the transmit power level to be used by the user terminal in further

3   transmissions.

1   20.   The medium of Claim 19, wherein the request burst further includes an

2   indication of the power used by the user terminal to transmit the request burst and

3   wherein the indication of the transmit power to be used by the user terminal is based upon

4   the indication in the request.

1   21.   The medium of Claim 16, wherein the broadcast burst has a specific

2   transmission time and the request burst is received with a specific timing relationship to

3   the broadcast message, the instructions further causing the machine to perform operations

4   comprising using the timing relationship to determine a base station to which the request

5   burst is directed.

1   22.   The medium of Claim 16, wherein the message burst is sent with a

2   specific timing relationship to the request burst, the instructions further causing the

3   machine to perform operations comprising using the timing relationship to direct the

4   message burst to the user terminal from which the request burst was received.

1   23.   The medium of Claim 16, wherein the broadcast burst includes a load

2   sequence that is related to the current traffic load at the base station.

1   24.   The medium of Claim 16, the instructions further causing the machine to

2   perform operations comprising analyzing the spatial direction from which the request

3   burst is received and wherein the instructions for transmitting the message burst further

4   comprise instructions causing the machine to perform operations comprising transmitting

5   the message burst spatially directed toward the user terminal based on the spatial

6   direction analysis.

1   25.   An apparatus comprising:

2   a transmiter of a base station of a radio communications system to transmit a

3   broadcast burst in a broadcast channel;

4   a receiver of the base station to receive a request burst from a user terminal;

5   a processor of the base station to assemble a message burst for transmission to the

6   user terminal from which the request burst was received, the message burst including a

7   description of the channels available on the radio communications system for receiving

8   messages from user terminals.

1   26.   The apparatus of Claim 25, wherein the description of the available

2   channels includes an identification of traffic channels of the radio communications

3   system.

1   27.   The apparatus of Claim 25, wherein the description of the available

2   channels includes an identification of random access channels of the radio

3   communications system.

1   28.   The apparatus of Claim 25, wherein the request burst further includes an

2   indication of the power used by the user terminal to transmit the request burst and

3   wherein the the message burst includes an indication of the transmit power to be used by

4   the user terminal based upon the indication in the request.

1   29.   The apparatus of Claim 25, wherein the broadcast burst has a specific

2   transmission time and the request burst is received with a specific timing relationship to

3   the broadcast message, and wherein the processor uses the timing relationship to

4   determine a base station to which the request burst is directed.

1   30.   The apparatus of Claim 25, wherein the message burst is sent with a

2   specific timing relationship to the request burst, to direct the message burst to the user

3   terminal from which the request burst was received.

1   31.   The apparatus of Claim 25, wherein the broadcast burst includes a load

2   sequence that is related to the current traffic load at the base station.

1   32.   The apparatus of Claim 25, further comprising a spatial processor to

2   analyze the spatial direction from which the request burst is received and to transmit the

3   message burst spatially directed toward the user terminal based on the spatial direction

4   analysis.

1   33.   An apparatus comprising:

2   means for transmitting a broadcast burst in a broadcast channel from a base station of

3   a radio communications system;

4   means for receiving a request burst from a user terminal;

5   means for transmitting a message burst from the base station to the user terminal from

6   which the request burst was received, the message burst including a description of the

7   channels available on the radio communications system for receiving messages from user

8   terminals.

1   34.   The apparatus of Claim 33, wherein the description of the available

2   channels includes an identification of traffic channels of the radio communications

3   system.

1   35.   The apparatus of Claim 33, wherein the description of the available

2   channels includes an identification of random access channels of the radio

3   communications system.

1   36.   The apparatus of Claim 33, wherein the message burst further includes an

2   indication of the transmit power level to be used by the user terminal in further

3   transmissions.

1   37.   The apparatus of Claim 33, wherein the message burst further includes an

2   indication of the timing adjustment to be used by the user terminal in further

3   transmissions.

1   38.   The apparatus of Claim 33, wherein the broadcast burst has a specific

2   transmission time and the request burst is received with a specific timing relationship to

3   the broadcast message, the apparatus further comprising means for using the timing

4   relationship to determine a base station to which the request burst is directed.

1   39.   The apparatus of Claim 33, wherein the message burst is sent with a

2   specific timing relationship to the request burst, the apparatus further comprising means

3   for using the timing relationship to direct the message burst to the user terminal from

4   which the request burst was received.

1   40.   The apparatus of Claim 33, wherein the broadcast burst includes a load

2   sequence that is related to the current traffic load at the base station.

1   41.   A method for requesting access on a wireless network comprising:

2   receiving a plurality of timing sequences on a broadcast channel from at least one

3   base station;

4   determining network timing using the received timing sequences;

5   using the network timing to determine a network access request transmission time;

6   transmitting a network access request at the determined time; and

7   receiving a message burst from a base station, the message burst including a

8   description of the channels available on the wireless network.

1   42.   The method of Claim 16, wherein the description of the available channels

2   includes an identification of traffic channels of the radio communications system.

1   43.   The method of Claim 16, wherein the description of the available channels

2   includes an identification of random access channels of the radio communications

3   system.

1   44.   The method of Claim 16, wherein the message burst further includes an

2   indication of the transmit power level to be used by the user terminal in further

3   transmissions.

1   45.   The method of Claim 16, wherein the message burst further includes an

2   indication of the timing adjustment to be used by the user terminal in further

3   transmissions.

1   46.   The method of Claim 16, wherein the timing sequences include a power

2   sequence that is related to the power used to transmit the timing sequence.

1   47.   The method of Claim 21, wherein transmitting a request further comprises

2   transmitting a request with a power selected based on the recieved power sequence.

1   48.   The method of Claim 16, wherein the timing sequences include a load

2   sequence that is related to the current traffic load at the base station.

1   49.   The method of Claim 16, wherein the timing sequences are received from

2   a plurality of different base stations and wherein the method further comprises

3   distinguishing different base stations using the time at which different timing sequences

4   are received.

1   50.   The method of Claim 16, wherein transmitting a request comprises

2   transmitting a request to a selected one of the plurality of different base stations by

3   transmitting the request at a time having a specific relationship to the time at which a

4   timing sequence is received from the selected base station.

1   51.   The method of Claim 16, wherein the timing sequences are received with

2   at least one frequency and wherein the method further comprises using the received

3   timing sequences to determine a request transmission frequency based on the frequency

4   of the received timing sequences.

1   52.   The method of Claim 16, further comprising receiving a base station

2   identifier on the broadcast channel and using the base station identifier to distinguish

3   broadcasts from different base stations on the same broadcast channel.

1   53.   The method of Claim 16, wherein receiving a timing sequence further

2 comprises receiving an identification of the base station and wherein transmitting a

3 request further comprises transmitting the base station identification.

1   54.   The method of Claim 28, wherein the code to identify the transmitting

2 base station comprises a base station color code.

1   55.   The method of Claim 29, wherein transmitting a request comprises

2 multiplexing the request with the base station identifying code.

1   56.   The method of Claim 16, wherein transmitting a request further comprises

2 transmitting an identifier of the transmitter.

1   57.   A machine-readable medium having stored thereon data representing

2 sequences of instructions which, when executed by a machine, cause the machine to

3 perform operations comprising:

4   receiving a plurality of timing sequences on a broadcast channel of a wireless

5 network from at least one base station;

6   determining network timing using the received timing sequences;

7   using the network timing to determine a network access request transmission time;

8   transmitting a network access request at the determined time; and

9   receiving a message burst from a base station, the message burst including a

10 description of the channels available on the wireless network.

1   58.   The medium of Claim 57, wherein the description of the available

2 channels includes an identification of traffic channels of the radio communications

3 system.

1   59.   The medium of Claim 57, wherein the description of the available

2   channels includes an identification of random access channels of the radio

3   communications system.

1   60.   The medium of Claim 57, wherein the message burst further includes an

2   indication of the transmit power level to be used by the user terminal in further

3   transmissions.

1   61.   The medium of Claim 57, the instructions for transmitting a request

2   comprise further instructions causing the machine to perform operations comprising

3   transmitting a request with a power selected based on the recieved power sequence.

1   62.   The medium of Claim 57, wherein the instructions for transmitting a

2   request comprise further instructions causing the machine to perform operations

3   comprising transmitting a request to a selected one of the plurality of different base

4   stations by transmitting the request at a time having a specific relationship to the time at

5   which a timing sequence is received from the selected base station.

1   63.   The medium of Claim 57, wherein the instructions for transmitting a

2   request comprise further instructions causing the machine to perform operations

3   comprising multiplexing the request with a base station identifying code.

1   64.   An apparatus for requesting access on a wireless network comprising:

2   means for receiving a plurality of timing sequences on a broadcast channel from at

3   least one base station;

4   means for determining network timing using the received timing sequences;

5   means for using the network timing to determine a network access request

6   transmission time;

7   means for transmitting a network access request at the determined time; and

8   means for receiving a message burst from a base station, the message burst including

9   a description of the channels available on the wireless network.

1   65.   The apparatus of Claim 64, wherein the description of the available

2   channels includes an identification of traffic channels of the radio communications

3   system.

1   66.   The apparatus of Claim 64, wherein the description of the available

2   channels includes an identification of random access channels of the radio

3   communications system.

1   67.   The apparatus of Claim 64, wherein the message burst further includes an

2   indication of the transmit power level to be used by the user terminal in further

3   transmissions.

1   68.   The apparatus of Claim 64, wherein the means for transmitting a request

2   comprises means for transmitting a request to a selected one of the plurality of different

3   base stations by transmitting the request at a time having a specific relationship to the

4   time at which a timing sequence is received from the selected base station.